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ABSTRACT OF THE DISCLOSURE

A temperature sensing element (thermocouple, thermistor, or resistance temperature detector) for high temperature applications is housed inside a metal tube, with lead wires to the temperature sensing element insulated from each other and the tube by a compactable mineral insulation material such as magnesium oxide. Initially the insulation material is in the form of a molded cylindrical preform with two lengthwise passages through which the lead wires are inserted. After the wires are inserted through the preform, the tube is placed around the preform and compressed to reduce its diameter. This crushes and tightly packs the insulation material around the lead wires. A strain relief and moisture seal may be provided at the end of the tube away from the temperature sensing element.